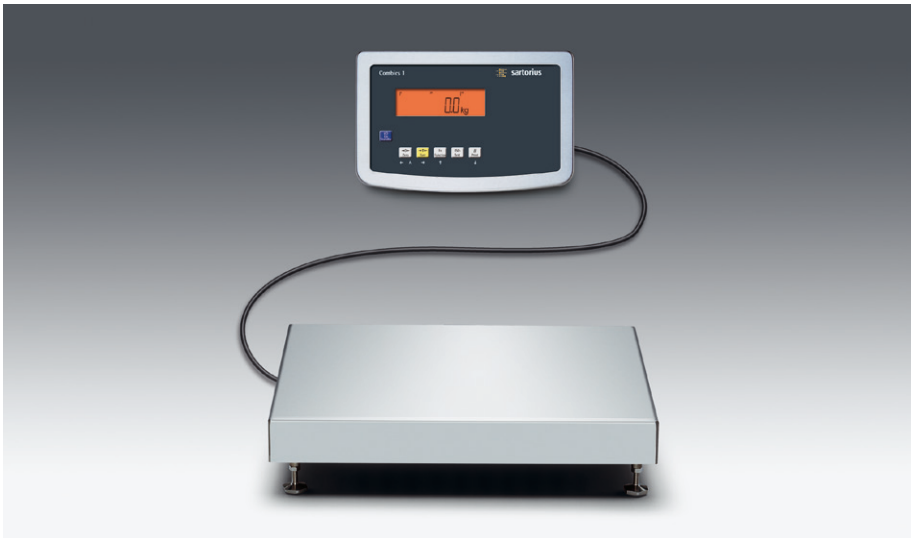
Combics complete scales CAWP...

Complete scales



- Large choice of combination options with standard components
- High weight-bearing construction together with high display accuracy
- High IP protection up to IP65 and an open design for easy cleaning
- Easy to operate
- Various interfaces RS232, RS485 | 422, analog, DIO, Profibus, Ethernet
- We provide certificates and documentation according to GMP, ISO, ATEX, OIML and FDA regulations

Combics provides support in all areas of your process chain, from manual formulations up to PC controlled production checks.

The modular system allows for a tailor-made configuration of the individual components for each area. We also produce individual complete solutions according to your specific applications.

Based on the specific requirements of various industries and the basic legal conditions, Sartorius has developed intelligent solutions for all weighing applications, from incoming goods through to production on a large technical scale. The Combics series supports the production of high-quality, appealing and safe products.

The unrivalled precision of Combics helps
- control flexible production
- reduce costs
- improve product quality
- raw materials to be used optimally
- increase output

A design made for longevity and flexibility stands for reliability.

The hygienic design of our solutions complies with today's extremely important hygiene regulations without compromise. The devices can be cleaned very easily and thus allow Combics to be used under tough conditions or where stringent safety standards apply. The materials and surfaces used significantly contribute to minimizing contamination risks.

All Combics scales meet the EHEDG specifications.

The easy to operate concept, in combination with the clearly labeled keys, helps prevent errors and makes it simpler for new users to learn how to use the scales.

The intelligent software guarantees optimum support in logging and documenting data. Comprehensive interfaces to data management systems and process controls allow optimum integration.

Typical weighing applications are supported by diverse software applications.

Additionally, we support you by qualifying according to your requirements. We provide certificates and documentation according to GMP, ISO, ATEX, OIML and FDA regulations.

General Specifications

Combination options
3 display and service units
10 weighing ranges from 3 kg to 3 t
13 platform dimensions

Material
Stainless steel display unit, steel platform galvanized or powder coated
Color: NCSS3502-B (RAL7040)
Load plate AISI 304 stainless steel (1.4301) (up to 800×600 mm)
Load plate powder-coated steel starting at 800×800 mm

Display and control unit
Delivered optionally with screw-fixed sheet metal plate or column for fixing the device to the platform

Additional accessories
4 × height-adjustable feet
Leveling device
Overload protection

Operating temperature range
-10°C to 40°C

Resolution (non-verifiable)
Depends on model:
1 × 30,000 d or 1 × 15,000 d

Resolution (verifiable, Class III)
Depends on model: 3,000 e or
2 × 3,000 e (MR | MI)

Weighing system
Single-point C3 load cell,
or 4 C3 load cells

IP protection rating
Platform IP65,
display and operating unit IP44

Data Interfaces
RS232

Optional
RS232
RS485/422
Analog output 0/4..20 mA, 0-10 V, 16-bit
Digital I | O (5 inputs and 5 outputs)
Profibus DP
Ethernet TCP | IP and Modbus TCP
PS/2
2nd inbuilt A | D converter

Built-in Alibi memory
Optional
130,000 data records

Load plate
optional
With painted tread plate
in stainless steel 1.4301 (as of 800 × 800mm)

Comprehensive range of accessories
Drive-on ramps
Frames for pit installation
Roller conveyor
Benches

Power supply
100 – 240 V AC (–15% | +10%), 50 – 60 Hz,
max. 17 W | 23 VA

Optional
15.5-24 VDC (±10%), max. 12 W
13–17 VAC (±10%), 50 – 60 Hz, max. 12 W

Battery operation
Optional
Internal rechargeable battery in indicator housing
(different housing dimensions)

Interference emission
Acc. to EN 61326-1, Class B (IEC 61326-1)

Electrical safety
Acc. to EN 61010-1 (IEC 61010-1)
EN60950 (IEC950)

Interference immunity
Acc. to EN 61326-1,
industrial areas (IEC 61326-1)

Applications	Material | Design	Number Weigh cells	Weighing capacity (kg)	Platform dimensions mm | Order code	Resolution
CAW1	**P**	**1 -**	**60**	**FE -**	**L**

Example of order code CAW1P1-60FE-L:

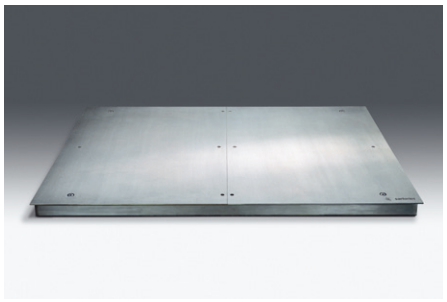
Part 1:	**CAW1P**	Display and control unit:	Application: Weighing only
Part 2:	**1-60FE**	Platform:	60 kg, L = 500 mm × W = 400 mm
	-L	Resolution:	5 g readability, non-verifiable

Display and control unit (Part 1)

Application levels

	Combics 1	Combics 2	Combics 3
Keyboard	6 keys	28 keys numerical keypad	30 keys alphanumeric keypad
Display	14 segments 20 mm weight display	14 segments 20 mm weight readout plus application icons	Graphics 20 mm weight readout plus application icons
Applications			
Basic weighing	•	•	•
Data transfer to printer | PC	•	•	•
ISO test	•	•	•
Counting		•	•
Weighing in percent		•	•
Averaging		•	•
Checking | Classification		•	•
Totalizing		•	•
Combination of 3 applications		•	•
Weighing and counting to target value (from the memory)		•	•
SQ Min	•	•	•
Identifiers		•	•
Product data memory		•	•
Date | Time		•	•
Integrated red | green | yellow display		•	•
Built-in alibi memory (optional)		○	○

Platform (Part 2)



Order code	Load range in kg	Readability in g not verifiable 15,000d – L	30,000 d – I	verifiable 3,000 e – BCE	2 × 3,000e MR – NCE	Material S: Stainless steel; G: Galvanized; P: Powder coated Load plate	Base frame	Length Platform Cable in m
1-3DC	3	0.2	0.1	1	0.5 | 1	S	G	3
1-6DC	6	0.5	0.2	2	1 | 2	S	G	3
1-15DC	15	1	0.5	5	2 | 5	S	G	3
1-30ED	30	2	1	10	5 | 10	S	G	3
1-30FE	30					S	G	3
1-60ED	60	5	2	20	10 | 20	S	G	3
1-60FE	60					S	G	3
4-60GF	60					S	P	3
4-60IG	60					S	P	3
1-150FE	150	10	5	50	20 | 50	S	G	3
4-150GF	150					S	P	3
4-150IG	150					S	P	3
4-150II	150					P	P	6
4-150LL	150					P	P	6
4-150NN	150				–	P	P	6
4-300GF	300	20	10	100	50 | 100	S	P	3
4-300IG	300					S	P	3
4-300II	300					P	P	6
4-300LL	300					P	P	6
4-300NN	300					P	P	6

Continued on next page...

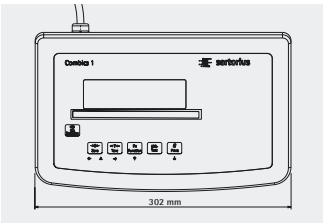
	Load range	Readability in g				Material		Length Platform Cable
	in kg	not verifiable 15,000d	verifiable 30,000 d	3,000 e	2 × 3,000e MR	S: Stainless steel; G: Galvanized; P: Powder coated		in m
Order code		– L	– I	– BCE	– NCE	Load plate	Base frame	
4-600IG	600	50	20	200	100 | 200	P	P	6
4-600II	600					P	P	6
4-600LI	600					P	P	6
4-600LL	600					P	P	6
4-600NL	600					P	P	6
4-600NN	600					P	P	6
4-600RN	600					P	P	6
4-600RR	600					P	P	6
4-600WR	600					P	P	6
4-1500-II	1500	100	50	500	200 | 500	P	P	6
4-1500LI	1500					P	P	6
4-1500LL	1500					P	P	6
4-1500NL	1500					P	P	6
4-1500NN	1500					P	P	6
4-1500RN	1500					P	P	6
4-1500RR	1500					P	P	6
4-1500WR	1500					P	P	6
4-3000II	3000	200	100	1000	500 | 1000	P	P	6
4-3000LI	3000					P	P	6
4-3000LL	3000					P	P	6
4-3000NL	3000					P	P	6
4-3000NN	3000					P	P	6
4-3000RN	3000					P	P	6
4-3000RR	3000					P	P	6
4-3000WR	3000					P	P	6

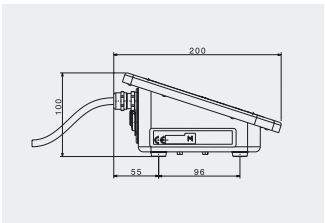
Resolution (depending on readability)

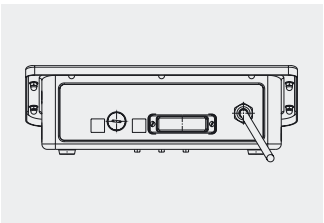
- L	15,000 d, intervals
- I	30,000 d, intervals
- BCE	1 × 3,000 e, verifiable increments
- NCE	2 × 3,000 e, verifiable increments, multi-range, fine range only for spec. capacity level

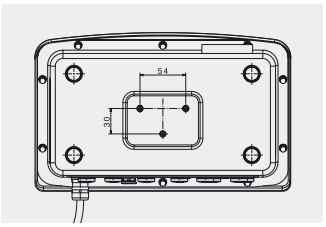
Dimensions

Display and control unit:

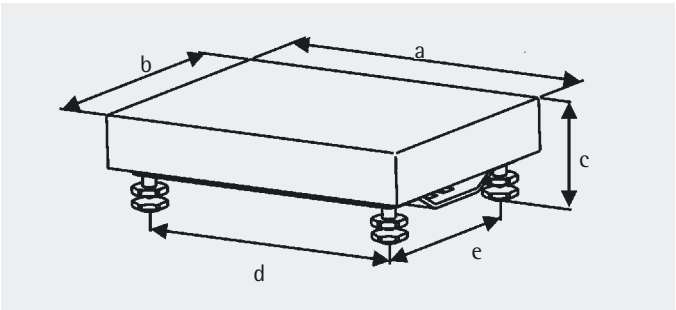


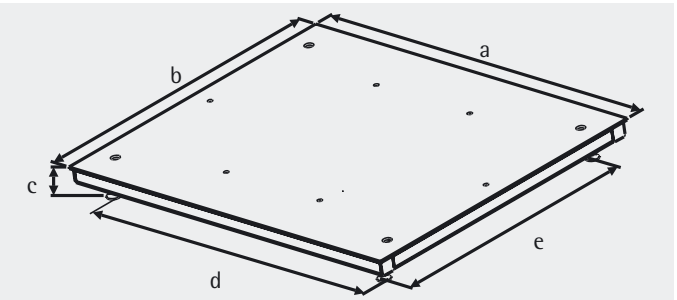






Platforms:





Design: ..DC, ..ED, ..FE, ..GF, ..IG

a	b	c	d	e	
(mm)	(mm)	(mm)	(mm)	(mm)	Design
320	240	70...89	264	184	...DC-
400	300	94...108	344	244	...ED-
500	400	94...108	443	343	...FE-
650	500	146 ± 3	530	430	...GF-
800	600	146 ± 3	680	530	...IG-

Design: ..II, ..LI, ..LL, ..NL, ..NN, ..RN, ..RR, ..WR

a	b	c	d	e	
(mm)	(mm)	(mm)	(mm)	(mm)	Design
800	800	90 ± 2	604	604	...II-
1000	800	90 ± 2	804	604	...LI-
1000	1000	90 ± 2	804	804	...LL-
1250	1000	90 ± 2	1054	804	...NL-
1250	1250	90 ± 2	1054	1054	...NN-
1500	1250	90 ± 2	1304	1054	...RN-
1500	1500	90 ± 2	1304	1304	...RR-
2000	1500	100 + 5	1804	1304	...WR-

For additional specifications, see the respective platform data sheet.

Options

The choice of many different options allows the scales to be customized to suit the user's specific applications.
If the option code is given with the order, the scales are delivered with the required features.
(Options can be retrofitted by ordering the respective accessories).

		Platform dimensions A × B in mm												
	Option	DC 320 × 240	ED 400 × 300	FE 500 × 400	GF 650 × 500	IG 800 × 600	II 800 × 800	LI 1000 × 800	LL 1000 × 1000	NL 1250 × 1000	NN 1250 × 1250	RN 1500 × 1250	RR 1500 × 1500	WR 2000 × 1500
Load plate design (only one option can be selected)														
Stainless steel V2A	R1	✓	✓	✓	✓	✓	•	•	•	•	•	•	•	•
Other functions														
Factory verified for the installation location (only for EWR)	F1	•	•	•	•	•	•	•	•	•	•	•	•	•

Interfaces	Order number as option	Combics 1	Combics 2	Combics 3	Accessories Order number
COM 1: RS 232		Standard	Standard	Standard	
COM 2: RS 232		-	-	Standard	
UNICOM					
RS 232	A1	•	•	•	YDO02C-232
RS 422	A2	•	•	•	YDO02C-485
RS 485	A3	•	•	•	YDO02C-485
Digital 5 inputs | 5 outputs	A5	•	•	•	YDO02C-DIO
Analog output	A9	•	•	•	YDO02C-AO
Profibus – DP	B1	•	•	•	YDO02C-DP
Ethernet TCP|IP	B9	•	•	•	YDO02C-ETH
2nd weighing point | Scale connection					
Analog platform 10,000e	A20		•	•	YDI02C-WPA
RS 232 interface for digital platform	A62		•	•	YDI02C-WPD
RS 485 interface for digital platform	A72		•	•	YDI02C-WPD
Equipment					
24-volt AC adapter	L8	•	•	•	
Built-in alibi memory	E 5		•	•	
Final inspection test report (scale)	Z3	•	•	•	

	Order number as option	Combics 1	Combics 2	Combics 3	Accessories Order number
Application kits for Combics 3 (instead of the above basic applications)					
Basic filling – Automatic single-component filling to target weight in filling or dispenser proportioning applications with transaction counter, totalizing and statistics functions	H3			•	
Filling with extras – like „Basic Filling", but also includes: Filling optimization, material and container weight monitoring, data memory for 100 products	H4			•	
Combination of user programs: weighing, counting, neutral measurement, weighing in percent, animal weighing, checkweighing, classification (3 or 5 classes); totalizing; up to three applications can be combined with one another	I2			•	
Separable scale connection					
Separable plug-in connection between indicator WP1 and platform, socket on indicator (0.2 m), plug included separately	X1	•	•	•	
Separable plug-in connection between indicator WP2 and platform, socket on indicator (0.2 m), plug included separately	X6		•	•	
Cable for connecting 2nd scale					
Connection cable IS platform to digital interface WP2 – 12-pin round plug socket	M97		•	•	
Connection cable for EA|EB|LA|CP to digital interface WP2 – 25-pin D-SUB plug	M98		•	•	
Connection cable for QA|QC|FB|FC to digital interface WP2 – 12-pin round plug socket	M99		•	•	

Accessories

Connection cable

	For COM1 and Unicom 25-pin D-SUB plug on the Combics side	for COM 2 (for CAW3P only) 9-pin D-SUB plug on the Combics side
Connection cable for YDP12/04/14 printer, – 9-pin D-SUB plug, 6 m	YCC01-01CISLM3 (3 meters)	YCC04-D09M6
Connection cable for YDP20-0CE printer or PC, – 9-pin D-SUB socket, 6 m	–	YCC04-D09F6
Connection cable for PC, – 9-pin D-SUB socket	7357314	YCC04-D09F6
Connection cable for dig. Sartorius balances, – 25-pin D-SUB plug, 6 m	YCCDI-01M3 (3 meters)	–
Connection cable for various accessories, – 25-pin D-SUB socket, 6 m	7357312	–
Connection cable for dig. Sartorius balances, – 12-pin round plug, 6 m	YCC01-02ISM3 (3 meters)	YCC04-R12M6
Connection cable for various accessories, – 12-pin round socket, 6 m	YCC01-03CISLM3 (3 meters)	YCC04-R12F6
Connection cable for various accessories, and the IS platform, – 12-pin round socket, 6 m	YCC01-03CISLM3 (3 meters)	YCC04-R12F6
Connection cable with open cable ends, 6 m	YCC02-RELAIS01	YCC02-RELAIS02
Ethernet connection cable with RJ45 plug, 7 m	–	–
Connection cable from RS-232 data interface to USB port on PC2, – 25-pin D-SUB plug | USB plug, 2 m	YCC01-USBM2	–

Software

SNLE Sartorius Nice Label Express Software	YAD02IS
WinScale for Windows	YSW03
SartoCollect	YSC02

Printer

Data printer with date, time and statistics program	YDP20-OCE
Strip | label printer, 60 mm paper width	YDP04IS-OCEUV
Strip | label printer, 108 mm paper width	YDP14IS-OCEUV
Thermal transfer printer, 108 mm paper width	YDP14S-OCEUVTH

Other accessories

Barcode scanner with PS/2 plug	YBR03PS2
Control display Red | Green | Red	YRD14Z
Dust covers for display unit (2 pieces)	YDC01CI
Plug and socket set to connect similar weighing platforms to indicators (separable connection)	YAS99I
Cable gland for cables with diameter 4.5 to 9 mm, M16 × 1.5	YAS04CIS
Kit for control panel installation	YAS07CI
Stainless steel cable connection box for connecting up to 4 load cells in one platform or for external assembly, PR6130 | 64S	940536130642
Relay box to connect weighing instruments to external controls, with 4 (5) relay outputs (250 V | 3 A) and 1 optocoupler input (0 - 30 V)	YSB01
Digital input | output module to connect Combics 3 to external control units, with 8 open collector outputs (50 mA) and 7 TTL-compatible inputs (0 – 30 V)	YSB02
Relay box to connect Combics 3 to external control units	VF3033

Description	Order reference
Mechanical accessories	
Column, height 330 mm	YDH01CWS
Column, height 500 mm	YDH02CWS
Column, height 750 mm	YDH03CWS
Wall mounting bracket for the display, stainless steel	YDH01CIS
Wall mounting bracket for the display, stainless steel, tiltable	YDH02CIS
Screw-fixed sheet metal plate for the indicator platform (separate display), stainless steel 1.4301(V2A) only for platform dimensions 400 × 300 mm (ED) and 500 × 400 mm (FE) *3	YDH12CWS
Brackets for wall mounting	
Bracket for wall mounting, stainless steel (also for use in Zones 1, 2, 21, 22)	YDH01CIS
Bracket for wall mounting, stainless steel, tiltable indicator (also for use in Zones 1, 2, 21, 22)	YDH02CIS
Floor-mounted column	
Floor-mounted column, painted, height 1.1 m (also for use in Zones 1, 2, 21, 22)	YDH03CIP
Floor-mounted column, stainless steel, height 1.1 m (also for use in Zones 1, 2, 21, 22)	YDH03CIS
Floor-mounted column accessories	
Column supports in stainless steel (4 supports)	YBP03CIS
Plate for attaching a printer to the floor-mounted column or bench stand	YPP01CWS
Mount for barcode scanner, to be attached to: floor-mounted column, bench stand	YBH01CWS
Stand, painted to fix the indicator to the platform, for platform dimensions: *3	
320 × 240 mm, stand height 330 mm	YDH01CWP
400 × 300 mm and 500 × 400 mm, stand height 500 mm	YDH02CWP
500 × 400 mm, stand height 750 mm	YDH03CWP
Painted drive-on ramp for platform dimensions: *3	
800 × 600 mm (ramp dimensions: 1,200 × 600 mm)	YAR01CWP
800 × 800 mm, 1,000 × 800 mm (ramp dimensions: 1,200 × 800 mm)	YAR06CWP
1,000 × 1,000 mm, 1,250 × 1,000 mm (ramp dimensions: 1,200 × 1,000 mm)	YAR02CWP
1,250 × 1,250 mm, 1,500 × 1,250 mm (ramp dimensions: 1,200 × 1,250 mm)	YAR03CWP
1,500 × 1,500 mm (ramp dimensions: 1,200 × 1,500 mm)	YAR04CWP
2,000 × 1,500 mm (ramp dimensions: 1,200 × 1,500 mm)	YAR05CWP
Painted drive-on ramp (tread plate) for platform dimensions: *3	
800 × 600 mm (ramp dimensions: 1,200 × 600 mm)	YAR01CWPT
800 × 800 mm, 1,000 × 800 mm (ramp dimensions: 1,200 × 800 mm)	YAR06CWPT
1,000 × 1,000 mm, 1,250 × 1,000 mm (ramp dimensions: 1,200 × 1,000 mm)	YAR02CWPT
1,250 × 1,250 mm, 1,500 × 1,250 mm (ramp dimensions: 1,200 × 1,250 mm)	YAR03CWPT
1,500 × 1,500 mm (ramp dimensions: 1,200 × 1,500 mm)	YAR04CWPT
2,000 × 1,500 mm (ramp dimensions: 1,200 × 1,500 mm)	YAR05CWPT

*3 suitable for use in Zones 2 + 22

Description	Order reference
Painted pit installation frame for platform dimensions:	
800 × 600 mm	YEG01CWP
800 × 800 mm	YEG08CWP
1,000 × 800 mm	YEG07CWP
1.000 × 1,000 mm	YEG02CWP
1.250 × 1,000 mm	YEG03CWP
1.250 × 1,250 mm	YEG09CWP
1.500 × 1,250 mm	YEG04CWP
1.500 × 1,500 mm	YEG05CWP
2.000 × 1,500 mm	YEG06CWP
Painted roller conveyer for platform dimensions:	
320 × 240 mm	YRC01DCA
400 × 300 mm	YRC01EDA
500 × 400 mm	YRC01FEA
650 × 500 mm	YRC01GFP
800 × 600 mm	YRC01IGP
Painted bench for platform dimensions: *3	
Painted bench for platform dimensions 400 × 300 mm, adjustment range 645 – 685 mm	YWT01CWP
Painted bench for platform dimensions 500 × 400 mm, adjustment range 655 – 695 mm	YWT02CWP
Painted bench for platform dimensions 650 × 500 mm, adjustment range 642 – 702 mm	YWT03CWP
Painted bench for platform dimensions 800 × 600 mm, adjustment range 642 – 702 mm	YWT04CWP
Other mechanical accessories	
Column for bench, stainless steel, for attaching indicator, adjustable height *3	YDH01WTCWS
Wheel set (2 wheels with steering and braking function) for bench *3	YRO01WTCW
Set of floor fasteners (2 × stainless steel plates, 4 × stainless steel floor anchors) for all platforms with 4 load cells*3	YFP01CWS
Fastening kit for locking the two feet of the weighing platform to the ramp and for all applications with pit installation from size 800 × 800 mm	YFP02CWS

*3 suitable for use in Zones 2 + 22

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